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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,145	02/20/2002	Sang Hyeon Baeg	CISCO-4979	9291

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EXAMINER	
TRIMMINGS, JOHN P	
ART UNIT	**PAPER NUMBER**
2138	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,145	BAEG ET AL.	
	Examiner	Art Unit	
	John P. Trimmings	2138	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20-22* is/are allowed.

6)☒ Claim(s) *1-19,23,24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the applicant's amendment dated 9/26/2005.

The applicant previously cancelled Claim 13.

The applicant amended Claims 1 and 11.

The applicant has added Claims 22-24 as new.

Claims 1-12 and 14-24 are pending.

Response to Amendment

1. In regard to independent Claims 1 and 11, the applicant's arguments filed 9/26/2005 have been fully considered but they are not persuasive.

The examiner would like to begin by reminding the applicant that the words of the claim define the scope and bounds of the invention, and that In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the differential voltage between the inputs ... is not greater than the threshold voltage") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the reference Lai only performs a frequency check, a recitation by the applicant of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the

prior art structure is capable of performing the intended use, then it meets the claim. The buffer circuit of Lai; (FIG.10 AUX_1, AUX_2), and integrator (FIG.10 Boundary Decoders), are duplicates of the applicant's buffer circuit of FIG.4., and as such, perform the same function. A failure condition (such as applicant FIG.3 A), may be applied and tested by Lai, resulting in both BSC bits of Lai in FIG.10 to be either high or low together, which is defined by the applicant as a "null" condition (paragraph 26). Lai simply has to scan the BSC bits out in order to perform a final null signal determination, and so the circuit has the capability of detecting a null condition. And the plain meaning (see In re Zletz, 893 F.2d 319,321 (Fed. Cir. 1989) of the word, "capability", is "an ability that has potential for development or use" (see American Heritage College Dictionary, Forth Edition).

In answer to the argument that the reference does not teach the five fault syndromes as specified in the Specification, the examiner agrees. But the applicant has not claimed this limitation of all five fault syndromes, and has instead claimed only "at least one of five fault syndromes". Therefore, the examiner, in choosing one condition (as noted above, FIG.3 A), has satisfied the claims.

In view of the above, the examiner maintains the rejections of Claims 1 and 11, and the dependent Claims 2-10, 12 and 14-19.

2. Applicant's argument, see amendment filed 9/26/2005, with respect to the rejection of Claims 20 and 21 have been fully considered and are persuasive. The rejection under 35 USC 103(a) of Claims 20 and 21 has been withdrawn.

Claim Rejections - 35 USC § 103

3. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al., U.S. Patent No. 6763486.

As per Claim 23:

Lai et al. teaches a receiver for boundary scan testing of differential interconnections between the receiver and a transmitter (column 1 lines 52-65), the receiver comprising: a differential input test buffer having null condition detection capability (see FIG.10 buffer circuit AUX_1, AUX_2, C_1, C_2, resistor/ref and ref+-), wherein the differential input test buffer measures a voltage differential between signal inputs (column 6 lines 13-52 and Claim 13), the input test buffer having a pair of signal outputs (FIG.10 AUX_1, AUX_2), wherein the input test buffer is configured to produce a same value at the signal outputs when the measured voltage differential is less than a threshold voltage (to one of ordinary skill in the art, this is the outcome of the circuit of Lai et al.); and an interface mechanism (FIG.10 Boundary Decoders) for providing at least partial test coverage for at least one of five fault syndromes (FIG.3 A) associated with same value at the signal outputs (the BSC's store the result of AUX_1 and AUX_2 for further processing and detection of a null condition). And in column 1 lines 39-48, the advantage is a means to observe failures in internal core logic of high-speed differential circuits by way of boundary scan methods. One with ordinary skill in the art, motivated as suggested, would have found it to be obvious that the boundary scan cells of Lai et

al., capable of passing the shorts and opens information, would be capable of null detection.

As per Claim 24:

Lai et al. further teaches the receiver as defined in claim 22, wherein the differential input test buffer is configured to preserve incoming signal states in the inputs (using the Boundary Decoder bits of FIG.10 for example) during boundary scan testing (column 1 lines 46-48). And in view of the motivation previously stated, the claim is rejected.

Allowable Subject Matter

4. Claims 20-22 are allowed. The following is an examiner's statement of reasons for allowance: As per independent Claims 20-22, the reference art of Lai, Haulin, Kim, Ichie and Koenemann teach an apparatus and method for receiving differential signals, which circuit having a differential null condition capability, using a common mode reference, and providing an interface which provides coverage for one of five faults. However, the prior arts of record taken alone, or in combination failed to teach, anticipate, suggest, or render obvious the claimed invention or the method steps of the application. Specifically, the prior arts failed to teach, anticipate, suggest, or render obvious the limitation introduced into these claims, namely: the presence in the circuit of a null detector. Consequently, Claims 20-22 are allowed over the prior arts of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Trimmings whose telephone number is (571) 272-3830. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John P Trimmings
Examiner
Art Unit 2138

jpt

GUY LAMARRE
PRIMARY EXAMINER